

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 April 2004 (22.04.2004)

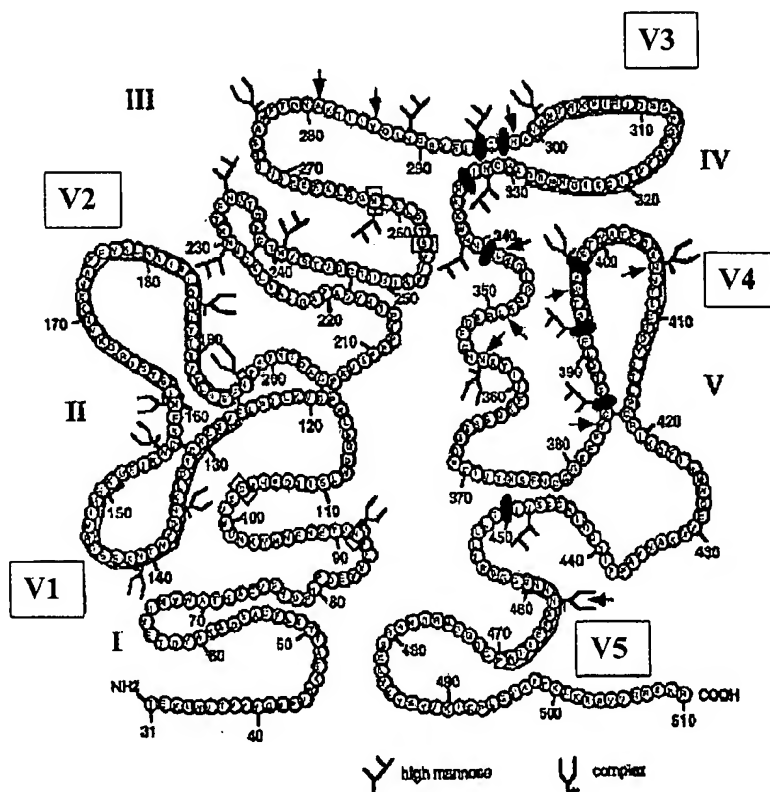
PCT

(10) International Publication Number
WO 2004/033663 A2

- (51) International Patent Classification⁷: C12N (72) Inventor; and
(75) Inventor/Applicant (for US only): WANG, Lai-Xi
(21) International Application Number: PCT/US2003/032496 [CN/US]; 3817 Palmetto Court, Elicott City, MD 21042 (US).
(22) International Filing Date: 14 October 2003 (14.10.2003) (74) Agents: FUJERER, Marianne et al.; Intellectual Property/Technology Law, P.O. Box 14329, Research Triangle Park, NC 27709 (US).
(25) Filing Language: English (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
(26) Publication Language: English (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
(30) Priority Data: 60/417,764 11 October 2002 (11.10.2002) US
(71) Applicant (for all designated States except US): UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE OFF. OF RESEARCH ADMIN./ TECH. DEV. [US/US]; 701 E. Pratt Street, Suite 200, Baltimore, MD 21202 (US).

[Continued on next page]

(54) Title: CARBOHYDRATE-BASED SYNTHETIC VACCINES FOR HIV



(57) Abstract: The present invention relates to a constructed oligosaccharide cluster, optionally bonded to an immunogenic protein, that can be administered to a subject to induce an immune response for increasing production of 2G12 and/or used in assays as reactive sites for determining compounds that inactivate and/or bind the high-mannose oligosaccharide cluster. Compositions comprising these clusters, methods of using these clusters and compositions are disclosed.